

REMARKS

Claims 1, 5-10, 26, 27, 29, and 32-33 remain in the application. Claims 2-4, 11-25, 28, and 30-31 have been cancelled.

By this amendment, applicants have amended claims 1 and 26 to more particularly point out and distinctly claim the subject matter that applicants regard as their invention in response to a §112 rejection.

Response to 35 U.S.C. §112 Rejection

Claims 1-10 and 26-33 were rejected under 35 U.S.C. §112, second paragraph for failing to particularly point out and claim the subject matter that applicants regard as their invention. This rejection is respectfully traversed in view of the amendments made herein and the remarks presented hereinafter.

Applicants respectfully submit that claims 1 and 26 call for an intermediary structure, and the elements set forth therein particularly point out and distinctly claim the intermediary structure. As a non-limiting example of an intermediary structure within the scope of claims 1 and 26, applicants respectfully point the Examiner to FIG. 4 of their specification. By way of example, the semiconductor layer as claimed is shown as element 75. Applicants respectfully believe that the express language of claims 1 and 26 makes it clear that the intermediary structure does not include the oxide layer that covers the first opening because of their use of the terms "when" and

"subsequently". Further, applicants' use of the terms "when" and "subsequently" make it clear that the intermediary structure has not yet been exposed to the oxidizing environment. Thus, applicants respectfully submit that claims 1-10 and 26-33 meet the requirements of §112, second paragraph, and the rejection of these claims is traversed.

Response to 35 U.S.C. §102(e) Rejection

Claims 1, 6-8, 26, 29 and 32 were rejected under 35 U.S.C. §102(e) as being anticipated by Mandelman, USP 6,518,641 ("Mandelman"). This rejection is respectively traversed in view of the remarks presented hereinafter.

Claim 1 calls for an intermediary semiconductor device, comprising a semiconductor substrate having a surface formed with a first recessed region. A first dielectric material is formed in the first recessed region. A second recessed region is formed within the first dielectric material, wherein the second recessed region has walls, a lower surface, and a first opening in proximity to the surface. A semiconductor layer is formed overlying the first dielectric material having a second opening at least partially over the first opening, wherein the semiconductor layer is configured to at least partially convert to an oxide layer that covers the first opening while leaving a void in the second recessed region when the semiconductor substrate is subsequently exposed to an oxidizing environment to form the oxide layer.

The present office action points to element 35 in Mandelman as a semiconductor layer as called for in applicants' claim 1. However, as expressly stated in

Mandelman's specification at col. 5, lines 45-50, element 35 consists of an insulating material (e.g., CVD oxide), which clearly is not a semiconductor layer.

Additionally, claim 1 calls for a second recessed region formed within the first dielectric material. Mandelman also fails to show this element. As shown in FIG. 1C, Mandelman's second recessed region is formed in semiconductor substrate 10, which clearly is not a first dielectric material. Thus, applicants respectively submit that Mandelman fails to anticipate claim 1 for at least these reasons.

Claims 6-8 depend from claim 1 and are believed allowable for at least the same reasons as claim 1.

Claim 26 calls for an intermediary of a semiconductor device, comprising a semiconductor substrate having a surface formed with a first recessed region. A first dielectric material is deposited in the first recessed region and formed with a second recessed region having a first opening and walls. A semiconductor cap layer is formed overlying the first dielectric material and having a second opening at least partially over the first opening, wherein the semiconductor cap layer is configured to at least partially convert an oxide that covers the first opening while leaving a void in the second recessed region when the semiconductor substrate is subsequently exposed to an oxidizing environment.

The present office action points to element 35 in Mandelman as a semiconductor cap layer as called for in applicants' claim 26. However, as expressly stated in Mandelman's specification at col. 5, lines 45-50, element

35 consists of an insulating material (e.g., CVD oxide), which clearly is not a semiconductor layer.

Additionally, claim 26 calls for a first dielectric material deposited in the first recessed region and formed with a second recessed region having a first opening and walls. As shown in FIG. 1C, Mandelman's second recessed region is formed in semiconductor substrate 10, which clearly is not a first dielectric material. Thus, applicants respectively submit that Mandelman fails to anticipate claim 26 for at least these reasons.

Claims 29 and 32 depend from claim 26 and are believed allowable for at least the same reasons as claim 26.

Response to 35 U.S.C. §103(a) Rejection

Claims 5, 9-10, 27 and 33 were rejected under 35 U.S.C. §103(a) as being unpatentable over Mandelman. This rejection is respectively traversed in view of the remarks presented hereinafter.

Claims 5, and 9-10 depend from claim 1. As stated above, Mandelman fails to anticipate claim 1 for at least two reasons. Moreover, Mandelman fails to suggest at least these two elements of claim 1, and thus, fails to make claim 1 obvious. In view of their dependence on claim 1, applicants respectfully submit that claims 5 and 9-10 are allowable over Mandelman.

Claims 27 and 33 depend from claim 26. As stated above, Mandelman fails to anticipate claim 26 for at least two reasons. Moreover, Mandelman fails to suggest at least these two elements of claim 26, and thus, fails to make claim 26 obvious. In view of their dependence on claim 26,

applicants respectfully submit that claims 27 and 33 are allowable over Mandelman.

In view of the above, it is believed that the claims are allowable, and the case is now in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

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